SEQUENCE LISTING

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<120> Process for producing the antibody composition using RNA which inhibits a function of α1,6-fucosyltransferase

<130> 11621WO1

<150> P2003-350167
<151> 2003-10-09

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<170> PatentIn Ver. 2.1

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        35                  40                  45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
    50                  55                  60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
65                  70                  75                  80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
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Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Asp Leu Gly Lys Asp His
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Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
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Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Gly Glu Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
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Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
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His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
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Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
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Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val
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Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
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Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His
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Arg Pro Gln Pro Trp Leu Glu Arg Glu Ile Glu Glu Thr Thr Lys Lys
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Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
355 360 365

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
370 375 380

His Val Glu Glu His Phe Gln Leu Leu Glu Arg Arg Met Lys Val Asp

385 390 395 400

Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu
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Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
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Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
500 505 510

His Gln Pro Arg Thr Lys Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
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Ile Gly Val Ala Gly Asn His Trp Asn Gly Tyr Ser Lys Gly Val Asn
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Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
        35                  40                  45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
    50                  55                  60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
65                  70                  75                  80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
                85                  90                  95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Gly Leu Gly Lys Asp His
            100                 105                 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
        115                 120                 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys His Leu Glu Gly Asn Glu
    130                 135                 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
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Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
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Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg
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His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
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Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
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Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
260 265 270

Ser Thr Gly His Trp Ser Gly Glu Val Asn Asp Lys Asn Ile Gln Val
275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
290 295 300

Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His
305 310 315 320

Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
325 330 335

Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
340 345 350

Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
355 360 365

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
370 375 380

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Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Thr Leu Leu Lys Glu
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Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
            420                 425                 430

Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
        435                 440                 445

Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
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Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
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Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
            500                 505                 510

His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
        515                 520                 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn
    530                 535                 540

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            20                  25                  30

Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
        35                  40                  45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
    50                  55                  60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
65                  70                  75                  80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
                85                  90                  95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Gly Leu Gly Lys Asp His
            100                 105                 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
        115                 120                 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys His Leu Glu Gly Asn Glu
    130                 135                 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
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Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
    210                 215                 220

His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
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Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
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Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
            260                 265                 270

Ser Thr Gly His Trp Ser Gly Glu Val Asn Asp Lys Asn Ile Gln Val
        275                 280                 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
    290                 295                 300

Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His
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Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
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Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
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Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
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Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
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Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ala Leu Leu Lys Glu
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Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
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His Lys Pro Arg Thr Asp Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn
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<215> Homo Sapience

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            20                  25                  30

Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
        35                  40                  45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
    50                  55                  60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Pro Ala Ile
65                  70                  75                  80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
                85                  90                  95

Ile Glu Asn Tyr Lys Lys Gln Thr Arg Asn Gly Leu Gly Lys Asp His
            100                 105                 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
        115                 120                 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Asn Leu Glu Gly Asn Glu
    130                 135                 140

Leu Gln Arg His Ala Asp Glu Phe Leu Leu Asp Leu Gly His His Glu
145                 150                 155                 160

Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
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Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Lys
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Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
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His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
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Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
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Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Ile
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Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val
275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
290 295 300

Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His
305 310 315 320

Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
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Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
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Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
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Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val

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His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
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Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
        435                 440                 445

Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
    450                 455                 460

Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
465                 470                 475                 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
                485                 490                 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Ile Tyr Ala
            500                 505                 510

His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met Glu Pro Gly Asp Ile
        515                 520                 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn
    530                 535                 540

Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
545                 550                 555                 560

Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys
                565                 570
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<210> 9
<211> 40
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 9
gaagggaguu gaaacucuga aaaugcgggc auggacuggu 40

<210> 10
<211> 31
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 10
gaggagaaug gcugagucuc uccgaauacc a 31

<210> 11
<211> 33
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 11
ccaaagacau gcagaugaaa uucuuuugga uuu 33

<210> 12

<211> 35
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 12
ucuuggaauc ucagaauugg cgcuaugcua cugga 35

<210> 13
<211> 32
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 13
auacacagaa aauucacuuc ggggcgugau cc 32

<210> 14
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 14
ucaucccagg ucuguagggu ugcuuaugaa auca 34

<210> 15
<211> 36
<212> RNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 15
caucuacuau uuuggaggcc aaaaugccca caacca 36

<210> 16
<211> 31
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 16
ugcacuggug gaacgccucu uugugaaggg c 31

<210> 17
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 17
caagaagcuu ggcuucaaac auccaguuau ugga 34

<210> 18
<211> 35
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 18
uauggcaccc agcgaacacu caucuuggaa ucuca 35

<210> 19
<211> 31
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 19
gaggcgaaug gcugagucuc uccgaauacc a 31

<210> 20
<211> 31
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 20
gaggcgaaug gccgaaucuc uccggauacc a 31

<210> 21
<211> 33
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 21
ccaaagacau gcagaugaau uucuuuugga uuu 33

<210> 22
<211> 35
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 22
ucuuggaauc ucagaauugg cgcuaugcua cuggu 35

<210> 23
<211> 32
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 23
guacacagaa aauucacuuc ggggugugau cc 32

<210> 24
<211> 32
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 24

auacacagaa aauucacuuc guggagugau cc 32

<210> 25
<211> 32
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 25
guacacagaa aauucacuuc ggggcgugau cc 32

<210> 26
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 26
ucaucccagg ucugucgggu ugcuuaugaa auca 34

<210> 27
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 27
ucaucccagg ucugucgagu ugcuuaugaa auua 34

<210> 28
<211> 36
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 28
caucuacuau uuuggaggcc aaaaugccca caauca 36

<210> 29
<211> 36
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 29
caucuacuau uuuggggggcc agaaugccca caauca 36

<210> 30
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 30
caagaagcuu ggcuucaaac auccagucau ugga 34

<210> 31

<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 31
gtctgaagca ttatgtgttg aagc 24

<210> 32
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 32
gtgagtacat tcattgtact gtg 23

<210> 33
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 33
ttcccagtca cgacgtt 17

<210> 34
<211> 17
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 34
caggaaacag ctatgac 17

<210> 35
<211> 18
<212> PRT
<213> Homo sapiens
<220>
<400> 35
Asp Glu Ser Ile Tyr Ser Asn Tyr Tyr Leu Tyr Glu Ser Ile Pro Lys
1 5 10 15
Pro Cys

<210> 36
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 36
atcctcgtcc tccttactta cc 22

<210> 37
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 37
tccagctgac caagaaatag ag 22

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 38
gatatcgctg cgctcgtcgt cgac 24

<210> 39
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 39
caggaaggaa ggctggaaga gagc 24

<210> 40
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 40

cccaagcttg atatcaaggt cgggcaggaa gagggcctat 40

<210> 41
<211> 52
<212> DNA
<213> Artificial Sequence
<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 41
gctctagaga tatcaaaaaa ggtaccgagc tcggtgtttc gtcctttcca ca 52

<210> 42
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 42
cgaatggctg agtctctccg aataccagaa cttcctgtca ttctggtatt cggagagact 60

cagccattcg gtac 74

<210> 43
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 43

cgaatggctg agtctctccg aataccagaa tgacaggaag ttctggtatt cggagagact 60

cagccattcg agct 74

<210> 44
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 44
cccagcgaac actcatcttg gaatctcaga cttcctgtca tctgagattc caagatgagt 60

gttcgctggg gtac 74

<210> 45
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 45
cccagcgaac actcatcttg gaatctcaga tgacaggaag tctgagattc caagatgagt 60

gttcgctggg agct 74

<210> 46
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 46
ggcagctgcg ccagggtttt cccagtcacg ac 32

<210> 47
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 47
cccagctgaa aaaaggtacc ctatgagctc ggggttggtt tttg 44

<210> 48
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 48
taaatagaat tcggcatcat gtggcagctg ct 32

<210> 49
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 49
aataaaggat cctggggtca tttgtcttga gggt 34

<210> 50
<211> 788
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (13)..(774)

<400> 50
gaa ttc ggc atc atg tgg cag ctg ctc ctc cca act gct ctg cta ctt 48
Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu
1 5 10
cta gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg 96
Leu Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val
15 20 25
ttc ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act 144
Phe Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr
30 35 40
ctg aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg 192
Leu Lys Cys Gln Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp
45 50 55 60
ttt cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att 240
Phe His Asn Glu Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile
65 70 75
gac gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac 288
Asp Ala Ala Thr Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn
80 85 90
ctc tcc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg 336
Leu Ser Thr Leu Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp
95 100 105
ctg ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att 384
Leu Leu Leu Gln Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile

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    110                 115                 120
cac ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca 432
His Leu Arg Cys His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr
125                 130                 135                 140
tat tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac 480
Tyr Leu Gln Asn Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp
                145                 150                 155
ttc tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc 528
Phe Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys
            160                 165                 170
agg ggg ctt ttt ggg agt aaa aat gtg tct tca gag act gtg aac atc 576
Arg Gly Leu Phe Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile
        175                 180                 185
acc atc act caa ggt ttg gca gtg tca acc atc tca tca ttc ttt cca 624
Thr Ile Thr Gln Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro
    190                 195                 200
cct ggg tac caa gtc tct ttc tgc ttg gtg atg gta ctc ctt ttt gca 672
Pro Gly Tyr Gln Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala
205                 210                 215                 220
gtg gac aca gga cta tat ttc tct gtg aag aca aac att cga agc tca 720
Val Asp Thr Gly Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser
                225                 230                 235
aca aga gac tgg aag gac cat aaa ttt aaa tgg aga aag gac cct caa 768
Thr Arg Asp Trp Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln
            240                 245                 250
gac aaa tga ccc cag gat cc                                     788
Asp Lys
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<210> 51
<211> 254
<212> PRT
<213> Homo sapiens

<400> 51

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Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala
 1               5                  10                  15
Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro
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```
            20                  25                  30
Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln
        35                  40                  45
Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu
    50                  55                  60
Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
65                  70                  75                  80
Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
                85                  90                  95
Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
            100                 105                 110
Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
        115                 120                 125
His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
    130                 135                 140
Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
145                 150                 155                 160
Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe
                165                 170                 175
Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln
            180                 185                 190
Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro Pro Gly Tyr Gln
        195                 200                 205
Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala Val Asp Thr Gly
    210                 215                 220
Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser Thr Arg Asp Trp
225                 230                 235                 240
Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln Asp Lys
                245                 250
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<210> 52
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 52
tgttggatcc tgtcaatgat gatgatgatg atgaccttga gtgatggtga t 51

<210> 53
<211> 620
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (13)..(609)

<400> 53
gaa ttc ggc atc atg tgg cag ctg ctc ctc cca act gct ctg cta ctt 48
Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu
1 5 10
cta gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg 96
Leu Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val
15 20 25
ttc ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act 144
Phe Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr
30 35 40
ctg aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg 192
Leu Lys Cys Gln Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp
45 50 55 60
ttt cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att 240
Phe His Asn Glu Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile
65 70 75
gac gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac 288
Asp Ala Ala Thr Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn
80 85 90
ctc tcc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg 336
Leu Ser Thr Leu Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp
95 100 105
ctg ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att 384
Leu Leu Leu Gln Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile

```
    110                 115                 120
cac ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca 432
His Leu Arg Cys His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr
125                 130                 135                 140
tat tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac 480
Tyr Leu Gln Asn Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp
                145                 150                 155
ttc tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc 528
Phe Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys
            160                 165                 170
agg ggg ctt ttt ggg agt aaa aat gtg tct tca gag act gtg aac atc 576
Arg Gly Leu Phe Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile
        175                 180                 185
acc atc act caa ggt cat cat cat cat cat cat tga cag gat cc      620
Thr Ile Thr Gln Gly His His His His His His
    190                 195
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<210> 54
<211> 199
<212> PRT
<213> Homo sapiens

<400> 54

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Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala
  1               5                  10                  15
Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro
             20                  25                  30
Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln
         35                  40                  45
Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu
     50                  55                  60
Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
 65                  70                  75                  80
Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
                 85                  90                  95
Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
            100                 105                 110
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Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
        115                 120                 125
His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
    130                 135                 140
Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
145                 150                 155                 160
Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe
                165                 170                 175
Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln
            180                 185                 190
Gly His His His His His His
        195
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